CLAIMS

1. A composite material comprising:

a fiber fabric that is composed of certain fibers; and

a matrix phase that is so formed as to adhere to the fiber fabric, wherein

the fiber fabric comprises:

main constitutional fibers; and

auxiliary fibers that compensate characteristics when the main constitutional fibers are exposed to a high temperature atmosphere.

2. The composite material according to claim 1, wherein the auxiliary fibers are included in the fiber fabric in such a proportion that residual stress that acts on the matrix phase and is caused by differences in thermal elongation between the fiber fabric and the matrix phase remains less than a breaking stress of the matrix phase.

3. The composite material according to claim 1, wherein the auxiliary fibers are included in the fiber fabric in such a proportion that stress during use that acts on the matrix phase and is caused by differences in thermal elongation between the fiber fabric and the matrix phase remains less than a breaking stress of the matrix phase.

4. The composite material according to claim 1, wherein the main constitutional fibers are formed from any one of silicon carbide, carbon, silicon nitride, silicon oxide, aluminum oxide, YAG, and a heat resistant metal.

5. The composite material according to claim 1, wherein the auxiliary fibers have a

different composition from that of the main constitutional fibers and are formed from any one of silicon carbide, carbon, silicon nitride, silicon oxide, aluminum oxide, YAG, and a heat resistant metal.

6. The composite material according to claim 1, wherein the fiber fabric includes a plurality of different types of the auxiliary fibers that each have a different composition.

7. The composite material according to claim 1, wherein the matrix phase is formed from any one of silicon carbide, carbon, zirconium carbide, silicon nitride, silicon oxide, aluminum oxide, zirconium oxide, hafnium oxide, YAG, and a heat resistant metal.

8. The composite material according to claim 1, wherein there are provided a plurality of different types of the matrix phase that each have a different composition.

9. The composite material according to claim 1, wherein, when the main constitutional fibers are formed from silicon carbide, the auxiliary fibers are formed from carbon, and the matrix phase is formed from silicon carbide, the mixture proportion of the auxiliary fibers relative to the main constitutional fibers is less than 90%.

10. The composite material according to claim 1, wherein the auxiliary fibers are included in a predetermined density distribution in the fiber fabric.

11. The composite material according to claim 10, wherein the density distribution of the auxiliary fibers in the fiber fabric gradually changes in a plate thickness direction.

12. A producing method of a composite material that is provided with a fiber fabric that is composed of certain fibers, and a matrix phase that is so formed as to adhere to the fiber fabric, comprising:

a step forming the fiber fabric which includes main constitutional fibers and auxiliary fibers that compensate characteristics when the main constitutional fibers are exposed to a high temperature atmosphere; and

a step in which the matrix phase is adhered onto the fiber fabric.

13. The producing method of a composite material according to claim 12, wherein at least a portion of the matrix phase is formed by a CVI method.

14. The producing method of a composite material according to claim 12, wherein at least a portion of the matrix phase is formed by a PIP method.

15. The producing method of a composite material according to claim 12, wherein at least a portion of the matrix phase is formed by a slurry method.

16. The producing method of a composite material according to claim 12, wherein at least a portion of the matrix phase is formed by a reactive sintering method.

17. The producing method of a composite material according to claim 12, wherein the fiber fabric is formed after combining a bundle of the main constitutional fibers together with a bundle of the auxiliary fibers so as to form a strand.

18. The producing method of a composite material according to claim 12, wherein the

fiber fabric is formed after dispersing and then blending together the main constitutional fibers and the auxiliary fibers so as to form a strand.

19. The producing method of a composite material according to claim 12, wherein the fiber fabric is formed by arranging the bundle of the main constitutional fibers and the bundle of the auxiliary fibers in predetermined proportions.

20. The producing method of a composite material according to claim 12, wherein the fiber fabric is formed by separating the bundle of the main constitutional fibers and the bundle of the auxiliary fibers into threads that have a predetermined thickness.